

12138

Original

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey <u>SHORELINE (PHOTOGRAMMETRIC)</u>	
Field No. _____	Office No. <u>T-12138</u>
LOCALITY	
State <u>PUERTO RICO</u>	
General locality <u>NORTHEAST COAST</u>	
Locality <u>PUNTA LA BANDERA</u>	
<u>1959-1961</u>	
CHIEF OF PARTY M. L. Olivier, Chief of Field Party V.R. Sobieralski, Tampa District Officer	
LIBRARY & ARCHIVES	
1 JUL 1968	
DATE _____	

USCOMM-DC 5087

12138 T-12138

T-12138 12138

DESCRIPTIVE REPORT - DATA RECORD

T-12138

PROJECT NO. (II): PH-6106			
FIELD OFFICE (II): Puerto Rico		CHIEF OF PARTY M. L. Olivier	
PHOTOGRAMMETRIC OFFICE (III): Tampa, Florida		OFFICER-IN-CHARGE V. Ralph Sobieralski	
INSTRUCTIONS DATED (II) (III): Field and Office: August 30, 1961 Amendment: Field and Office January 15, 1962 * * Interior planimetry restricted to those features useful to photo hydro support. 228			
METHOD OF COMPILATION (III): Kelsh Plotter			
MANUSCRIPT SCALE (III): 1:10,000		STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:6,000	
DATE RECEIVED IN WASHINGTON OFFICE (IV): APRIL 13, 1968		DATE REPORTED TO NAUTICAL CHART BRANCH (IV):	
APPLIED TO CHART NO.		DATE:	DATE REGISTERED (IV):
GEOGRAPHIC DATUM (III): Puerto Rico		VERTICAL DATUM (III): MHW MEAN SEA LEVEL EXCEPT AS FOLLOWS: Elevations shown as (25) refer to mean high water Elevations shown as (5) refer to sounding datum i.e., mean low water or mean lower low water	
REFERENCE STATION (III): LUQUILLO CHURCH (USGS)1934			
LAT.: 18°22'39.07" (1201.2m)	LONG.: 65°42'58.93" (1729.9m)	<input checked="" type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED	
PLANE COORDINATES (IV): y = 198,085 Feet x = 748,581 Feet		STATE Puerto Rico	ZONE Puerto Rico
ROMAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE, OR (IV) WASHINGTON OFFICE. WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.			

DESCRIPTIVE REPORT - DATA RECORD

FIELD INSPECTION BY (III): M. L. Olivier		DATE: December 1961
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): Air photo compilation Date of photography: April 1959		
PROJECTION AND GRIDS RULED BY (IV): A.R. (W.O.)		DATE July 1962
PROJECTION AND GRIDS CHECKED BY (IV): L.F.B. (W.O.)		DATE " "
CONTROL PLOTTED BY (III): V. P. Cackowski		DATE August 1962
CONTROL CHECKED BY (III): V. P. Cackowski		DATE " "
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): R. E. Fuechsel (W.O.)		DATE March 1962
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY R. E. Smith Reviewed by: I. I. Saperstein	DATE August 1962 " "
	CONTOURS Inapplicable	DATE
MANUSCRIPT DELINEATED BY (III): R. E. Smith		DATE August 1962
SCRIBING BY (III): Inapplicable <i>A. Santillan</i>		DATE <i>June 1966</i>
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): W. H. Shearouse		DATE October 1962

REMARKS:

FIELD EDIT HAS NOT BEEN DONE.

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

Wild "S"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
59-S-3897	4/18/59	10:49	1:30,000 Dia-	0.0 Photos
59-S-3898	"	10:49	" positives	0.0 taken at
59-S-3899	"	10:50	" "	0.0 approx MLW

Predicted TIDE (III)

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION: San Juan		1.1	1.3
SUBORDINATE STATION: Bahia de Fajardo	1.0	1.1	1.4
SUBORDINATE STATION:			

Atlantic Marine Center

WASHINGTON OFFICE REVIEW BY (IV):

M. M. SLOVNEY

DATE:

APRIL, 1967

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II): 2

RECOVERED: 1

IDENTIFIED: 1

NUMBER OF BM(S) SEARCHED FOR (II): 0

RECOVERED: 0

IDENTIFIED: 0

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III): 0

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III): 2

REMARKS:

COMPILATION RECORD

COMPLETION DATE

REMARKS

COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore area for hydro	November 1962	<i>SUPERSEDED</i>
<i>Manuscript Complete</i>	<i>June 1966</i>	<i>"</i>
<i>REVISED DURING FINAL REVIEW</i>	<i>APRIL, 1967</i>	

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-12138

Shoreline manuscript T-12138 is one of sixteen 1:10,000 maps in Ph-6106 (21042) Puerto Rico, which also contains eight 1:5,000 scale maps. The sketch on page 5 of this report shows the position of this manuscript in the project. It is noted that 1:5,000 maps T-12143 and T-12144; and 1:10,000 maps T-12150, T-12151, and T-12161 of this project are in a "postponed" status until some future date. ~~cancelled.~~

This is a stereo-instrument project in advance of hydrographic surveys of the area. 1:30,000 scale panchromatic photographs were taken with the "S" camera on April 8, 1959. 1961 panchromatic "W" photography was taken on October 20 at 1:30,000 scale; only contact prints were furnished. Color photographs at 1:10,000 were taken with the "S" camera in 1962, but were not furnished. The stereo-bridge was run and adjusted to field identified control in the Washington Office. ^{with S.} Compilation was done with the Kelsh Plotter. Ratio prints ^{from the 1959 photos.} at 1:10,000 scale were processed, and prepared for photo-hydro support.

Field work preceding compilation consisted of control identification and field inspection was provided for compilation. The manuscript has not been field edited. Hydrography is planned for some future date.

The compilation manuscript was a vinylite sheet four minutes, 45 seconds in latitude, and three minutes 45 seconds in longitude. The smooth manuscript was on cronaflex for registry and record after final review.

2. AREAL FIELD INSPECTION

T-12136 thru T-12138

These shoreline sheets are located on the northeastern coast of Puerto Rico. The area is rural and undeveloped except for the village of Luquillo.

Field inspection was performed on ratio photographs 59-S-3892 through 59-S-3906. Where there ^{were} changes since the 1959 photography some inspection was done on contact photographs 61-W-1651 through 61-W-1657, and 61-W-1742.

3. HORIZONTAL CONTROL

All Coast and Geodetic Survey control stations within the project limits were searched for. Only those stations as specified on the project diagram were photo-identified. Photo-identification was done on the 1959 photographs. The following U. S. Geological Survey control stations were used to supplement the photo control: LUQUILLO CHURCH, 1934; PALMER, 1939; RIO GRANDE CHURCH, 1934; and CENTRAL FAJARDO NORTH STACK, 1941. RIO GRANDE CHURCH, 1934 (USGS) was photo-identified in place of POINT IGLESIAS, 1902 and POINT UVERO, 1902 because these two stations were not recovered.

4. VERTICAL CONTROL

There were no tidal bench marks in the area.

5. CONTOURS AND DRAINAGE

Contours were not a part of the work requirements for this project.

Drainage patterns can be distinguished on the photographs.

6. WOODLAND COVER

Woodland cover has been classified in accordance with the requirements for topographic maps. Wooded areas are adequately covered by the field inspection photographs. Swamp areas were designated as mangrove.

7. SHORELINE AND ALONGSHORE FEATURES

The mean high water line was inspected by walking along the shoreline. In places the mean high water line is not clearly visible on the photographs. Therefore measurements were made from a distinguishable feature on the photograph.

The low water line was not indicated on the photographs because with the large breakers and heavy seas there was no appreciable difference between mean low water and mean high water.

The foreshore is flat in most areas.

There are no docks, piers, wharves, etc.

There are no submerged cables.

8. OFFSHORE FEATURES

An abundance of coral growth surrounds the coast line. These coral areas are distinguishable on the photographs. Rock areas have been noted on the photographs.

9. LANDMARKS AND AIDS

Landmarks and aids to navigation are adequately covered on Form 567.

10. BOUNDARIES, MONUMENTS, AND LINES

Boundaries were excluded by the project instructions.

11. OTHER CONTROL

Existing objects suitable for photo hydro control were identified and indicated by three digit numbers on the field inspection photographs.

12. OTHER INTERIOR FEATURES

All buildings and roads have been classified in accordance with project instructions dated 30 August 1961.

13. GEOGRAPHIC NAMES

An investigation of geographic names was not required by the project instructions. It was noticed that almost all of the geographic names on the existing charts and quads of this area agree with one another and with the general opinion of the local people. Where discrepancies were found the proper name has been indicated on the photograph.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

Contact photographs were forwarded to the Washington office by Letter of Transmittal No. PH-6106-5 dated 13 December 1961.

Submitted
4 January 1962

Michael L. Olivier
Michael L. Olivier
Chief, Photo-party 708

PHOTOGRAMMETRIC PLOT REPORT
PUERTO RICO, EAST COAST
PROJECT PH-6106
March, 1962

21. Area Covered:

T-12136 through T-12139; T-12141 through ^{T-12146;} T-12148; T-12152 through T-12161.

22. Method:

Five stereoplanigraph bridges were run in order to provide pass points for Kelsh compilation of the project.

Strip #4 was adjusted on a linear basis. All other strips were adjusted on a least-squares basis on the IBM 650 computer. Satisfactory adjustments were obtained for all strips in the project.

23. Adequacy of Control:

The horizontal control provided complied with project instructions, and was adequate. The following control failed to hold in bridging:

Δ PINERITA 2, 1941-SUB.PT. 2. This station had been designated as a poor image pt. at the time of bridging, and may safely be disregarded due to the proximity of other control that held in bridging.

24. Supplemental Data:

None

25. Photography:

The photography was adequate for the needs of aerotriangulation.

Submitted by:

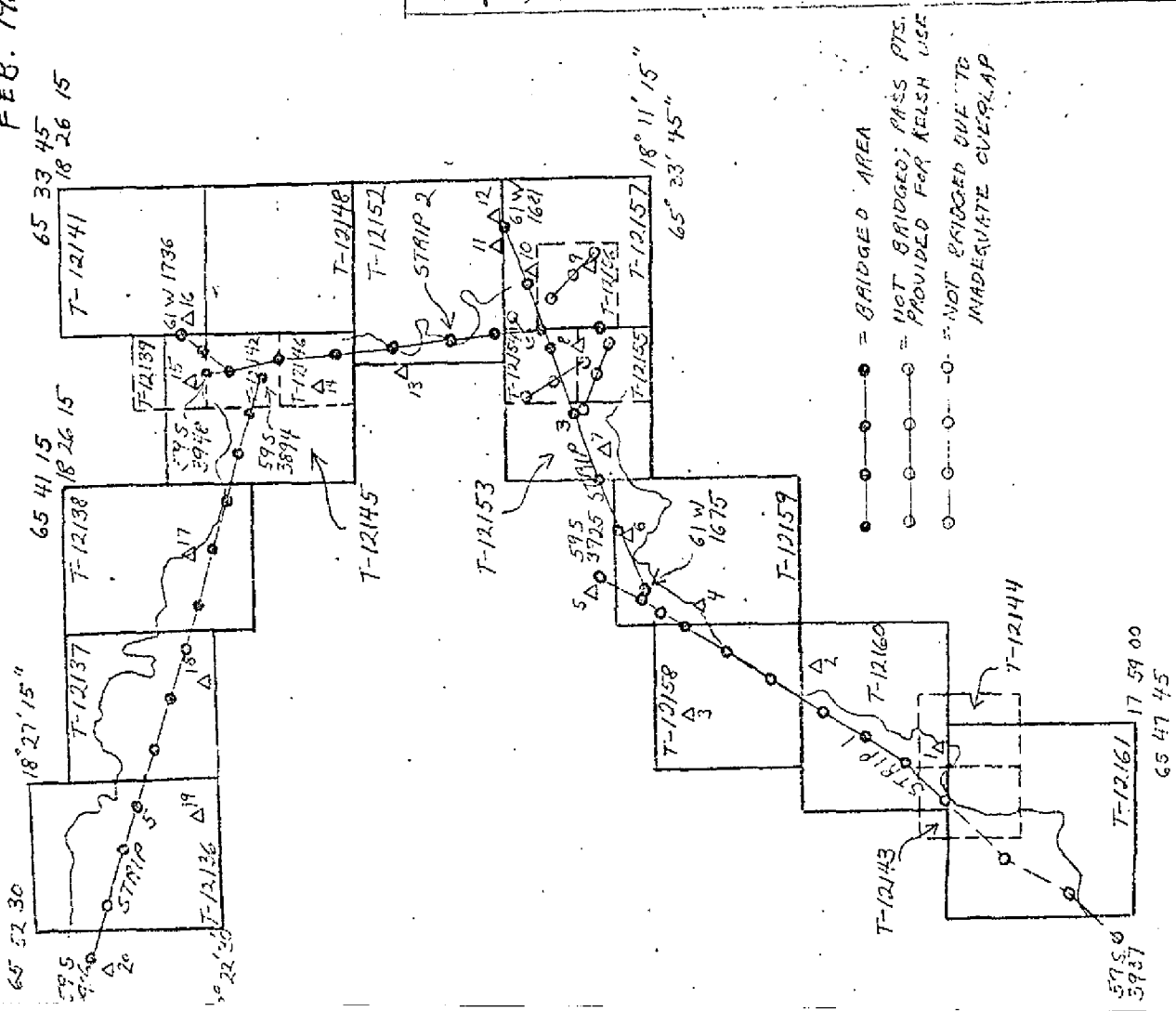
R. E. Fuechsel
R. E. Fuechsel

Approved:

E. H. Ramey
E. H. Ramey, Chief
Aerotriangulation Section

PUEERTO RICO - EAST COAST
PROJECT PH-6106

FEB. 1962



TRIANGULATION LIST

- | | |
|--|--|
| 1. GUAYANES 2, 1923-SUB. 1+2 | 16. CAPE SAN JUAN LIGHT HOUSE, 1900 |
| 2. BATATA, 1901-SUB. 1+2 | 17. LUQUILLO CH. (USGS) 1934 |
| 3. PASTO VIEJO EASTERN SUGAR ASSEM. WH. COM. STACK, 1941 | 18. PALMER (USGS) 1939-SUB. 1+2 |
| 4. HUMACAO PLAYA CH. (USGS) 1934 | 19. RIO GRANDE CHURCH (USGS) 1934-SUB. 1+2 |
| 5. NAGUABO CH. (USGS) 1934 | 20. SANTA INEZ, 1902-SUB. 1+2 |
| 6. COLON (USGS) 1941-SUB. 1+2 | |
| 7. LOMA 1941-SUB. 1+2 | |
| 8. HONDA 1941-SUB. 1+2 | |
| 9. CABRAS IS. LT., 1941 | |
| 10. MUNDO, 1926-SUB. 1+2 | |
| 11. PINERITA 2, 1941-SUB. 1+2 | |
| 12. CABEZA DE PERRO LT., 1923 | |
| 13. PENEDO, 1941-SUB. 1+2 | |
| 14. CLNTRAL FAJARDO NORTH STACK, 1941 | |
| 15. CAPE, 1901-SUB. 1+2 | |

●—● = BRIDGED AREA
○—○ = NOT BRIDGED; PASS PTS. PROVIDED FOR KELSH USE
○—○—○ = NOT BRIDGED DUE TO INADEQUATE OVERLAP

COMPILATION REPORT
T-12138

PHOTOGRAMMETRIC PLOT REPORT

See pages B & BA.

~~The stereo bridge was run in the Washington Office. The Photogrammetric Plot Report is bound in the report for T-12157.~~

31. DELINEATION

The Kelsh Plotter was used. The field inspection was adequate. No difficulty was encountered in the interpretation of the photographs. Contact photographs 61-W-1654, 1655 and 1656 were used for visual assistance in connection with delineation of shoal and coral areas.

32. CONTROL

See Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Inapplicable.

35. SHORELINE AND ALONGSHORE DETAILS

The mean high water line was delineated according to the field inspection which was adequate. No low water line was shown. See Field Inspection Report, Item 7.

36. OFFSHORE DETAILS

Numerous coral reefs were delineated and other offshore areas have been shown with a dashed line, from office interpretation. These have been referred to the hydrographic party under item 49 for further investigation.

37. LANDMARKS AND AIDS

There are no aids. One landmark has been located and Form 567 submitted as a part of this report. *Orig. to Charts & copy to Coast Pilot in Jan. 1963*

10.

38. CONTROL FOR FUTURE SURVEYS

Two photo-hydro stations were located and are listed under Item 49.

Shoreline pass points have been located by the Kelsh Plotter for photo-hydro support.

39. JUNCTIONS

Junctions have been made with T-12137 to the west, T-12145 to the east. No surveys to the north or south.

40. HORIZONTAL AND VERTICAL ACCURACY

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison has been made with USGS quadrangle FAJARDO scale 1:20,000, edition of 1958. No major shoreline changes were noted.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison has been made with chart 917, scale 1:40,000 edition of May 6, 1930 revised October 12, 1959 and corrected to February 4, 1961. It is noted that the entrance to Rio Sabana at Luquillo shown closed on the chart is now open at high water in accordance with the field inspection.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

R. E. Smith

R. E. Smith
Carto Photo Aid

APPROVED AND FORWARDED: -4 DEC 1962

V. Ralph Sobieralski
V. Ralph Sobieralski
Tampa District Officer

GEOGRAPHIC NAMES
FINAL REVIEW LIST
PH-6106
T-12138 (Shoreline)

> ATLANTIC OCEAN

> FORTUNA

> LUQUILLO

> PUNTA EMBARCADERO S - *JP*

> PUNTA LA BANDERA

> RIO PITAHAYA

> RIO SABANA

From Final Name Sheet (#6 of 7 for Ph-6106 RT. NO. 3614
on FAJARDO quad.)

M. M. Slavney
M. M. Slavney
Final Review

*Names approved
May 28, 1968*

*A. J. Wraight
Frank W. Sackett*

11A

49. NOTES FOR THE HYDROGRAPHER

Two photo-hydro stations were located.

116 (W.palm tree of 5) Note: The tops of these trees merge, but it is believed that this point was dropped in the center of the westerly tree. Use with caution.

117 (NE corner of white house on hill.)

Most of the coral areas were identified but not delimited by the field inspector. Approximate limits shown are from study of Kelsh models. Some modification of limits is to be expected after hydrographic investigation. The dashed lines are breaker or shoal limits and are approximate. They are shown as an aid to the hydrographer and are not intended in any way as fixed limits. The coral limits do not necessarily define the low-water line; this has been left for investigation by the hydrographer.

PHOTOGRAMMETRIC OFFICE REVIEW

50. T- 12138

1. PROJECTION AND GRIDS WHS		2. TITLE WHS Classification label <u>unclassified</u>		3. MANUSCRIPT NUMBERS WHS	4. MANUSCRIPT SIZE WHS	
CONTROL STATIONS	5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY WHS		6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (TOPOGRAPHIC STATIONS) XX			
	7. PHOTO HYDRO STATIONS WHS	8. BENCH MARKS XX	9. PLOTTING OF SEXTANT FIXES XX	10. PHOTOGRAMMETRIC PLOT REPORT W.O. BRIDGE		
	11. DETAIL POINTS Kelsh (R.E.S.)					
ALONGSHORE AREAS (Nautical Chart Data)	12. SHORELINE WHS	13. LOW-WATER LINE XX	14. ROCKS, SHOALS, ETC. WHS	15. BRIDGES XX		
	16. AIDS TO NAVIGATION XX		17. LANDMARKS WHS	18. OTHER ALONGSHORE PHYSICAL FEATURES WHS		
	19. OTHER ALONGSHORE CULTURAL FEATURES WHS					
PHYSICAL FEATURES	20. WATER FEATURES WHS		21. NATURAL GROUND COVER XX			
	22. PLANETABLE CONTOURS XX		23. STEREOSCOPIC INSTRUMENT CONTOURS XX			
	24. CONTOURS IN GENERAL XX		25. SPOT ELEVATIONS XX			
	26. OTHER PHYSICAL FEATURES WHS					
CULTURAL FEATURES	27. ROADS XX	28. BUILDINGS XX	29. RAILROADS XX			
	30. OTHER CULTURAL FEATURES XX					
BOUNDARIES	31. BOUNDARY LINES XX		32. PUBLIC LAND LINES XX			
	33. GEOGRAPHIC NAMES WHS			34. JUNCTIONS WHS		
MISCELLANEOUS	35. LEGIBILITY OF THE MANUSCRIPT WHS		36. DISCREPANCY OVERLAY XX		37. DESCRIPTIVE REPORT WHS	
	38. FIELD INSPECTION PHOTOGRAPHS WHS		39. FORMS WHS			
	SIGNATURE OF REVIEWER <i>William H. Shearouse</i> William H. Shearouse			SIGNATURE OF SUPERVISOR, REVIEW SECTION OR UNIT <i>Milton M. Slaveney</i> Milton M. Slaveney		
	40. FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT - Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted in remarks on reverse side. <i>NO FIELD EDIT.</i>					
SIGNATURE OF COMPILER			SIGNATURE OF SUPERVISOR			

FIELD EDIT REPORT
T-12138

No field edit was done for T-12138.

REVIEW REPORT T-12138
SHORELINE
April 1967

61. GENERAL STATEMENT

See Summary accompanying Descriptive Report (page 6).

The ozalid Comparison Print showing the differences noted in Items 62, 63 and 65, is enclosed with the original of this report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

REGISTERED SURVEY 4205; 1:20,000; 1921

The shoreline, rocks, and reefs from No. 4205 are shown on the Comparison Print in blue.

- (a) Shoreline differences to 50 meters: These include Punta Embarcadero and the point at latitude $18^{\circ}23.05'$, longitude $65^{\circ}43'$.

The protuberance of shoreline at latitude $18^{\circ}22.67'$, longitude $65^{\circ}42.82'$ on T-12138 was noted by the field inspector, as was the rock ledge just beyond it.

- (b) No. 4205 shows an island about 60 meters long and 30 meters wide at latitude $18^{\circ}23.47'$, longitude $65^{\circ}43.57'$. No evidence of an island is visible on photographs 59-S-3897 thru 3899 or 61-W-1654 thru 1656. Some very small (about 5 meters in diameter) mangrove islets were identified by the field inspector about 30 meters southeast and 50 meters southwest of the position given above.
- (c) The sunken rock at latitude $18^{\circ}23.15'$, longitude $65^{\circ}42.94'$, and the rock awash at latitude $18^{\circ}22.9'$, longitude $65^{\circ}42.94'$ were not visible on photographs 59-S-3897 thru 3899 or 61-W-1654 thru 1656.
- (d) The rock awash and sunken rocks strung northwest from latitude $18^{\circ}22.62'$, longitude $65^{\circ}42.67'$ to latitude $18^{\circ}22.67'$, longitude $65^{\circ}42.74'$ appear to be a generalization of the rocks near here on

the photographs and were noted by the field inspector simply as "rocks". Their designations "awash" was from the Kelsh compilation.

- (e) The reef line inshore of the rocks near latitude $18^{\circ}22.2'$, longitude $65^{\circ}42.7'$ is not visible on the photographs, or is the low water line offshore of the same rocks.

T-12138 supersedes the previous registered surveys for nautical chart construction.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

FAJARDO, P. R. quad.; U.S.G.S.; 1:20,000; 1942 revised 1958.

The Comparison Print shows the shoreline of the quadrangle in purple. There are differences of up to 50 meters.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

None. Registered Survey 4205 (1921) is the latest available.

65. COMPARISON WITH NAUTICAL CHARTS

Chart 917; 1:40,000; 6th edition May 16, 1966.

The chart shoreline, drainage, islands, rocks and reefs are shown on the Comparison Print in red.

- (a) There are shoreline differences to about 40 meters. The largest changes are Punta Embarcadero and the point at latitude $18^{\circ}23.05'$, longitude $65^{\circ}43'$.
- (b) Most of the drainage on the chart, for the area covered by T-12138, is obsolete; some is non existent now, and some has been ditched and/or otherwise changed. See the Comparison Print and field photographs 59-S-3897 through 3899.
- (c) The chart shows various islands not mapped on this survey; they are not visible on either the 1959 or 1961 photographs and were not noted by the field inspector.

1. Two islands at latitude $18^{\circ}23'.52$, longitude $65^{\circ}43'.73$.
 2. An island at latitude $18^{\circ}23'.47$, longitude $65^{\circ}43'.57$, see paragraph (b) Item 62.
 3. Four small islands just offshore at latitude $18^{\circ}22'.67$, longitude $65^{\circ}42'.8$.
- (d) The rocks awash on the chart have their counterparts on T-12138, although the chart shows only two near latitude $18^{\circ}22'.64$, longitude $65^{\circ}42'.7$ whereas T-12138 shows five rocks awash.
- (e) The sunken rocks from latitude $18^{\circ}22'.9$, longitude $65^{\circ}42'.9$ to latitude $18^{\circ}23'.55$, longitude $65^{\circ}43'.1$ are either shown on T-12138 as "coral" or are not visible.
- (f) The reef line on T-12138 is from visible coral and its limits show the area in more detail than the chart.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

No accuracy tests have been run. The map meets the Bureau requirements and the National Standards for Map Accuracy.

Approved by:

Reviewed by:

J. Bull
 J. Bull, RADM
 Director, Atlantic Marine Center

M. M. Slavney
 M. M. Slavney

Approved by:

Charles Sturman
 Chief, Cartographic Branch
 Photogrammetric

Ralph Sobieralski
 Chief, Photogrammetry Division

JUN 19 1968

John O. Boyer
 Chief, Chart Division

Chief, Operations Division

NOTES TO VERIFIER
T-12138 Project 21042 (PH-6106)
BOAT SHEET No. None

No contemporary hydrographic survey.

